

5. Monitor and report on performance measures at minimum on a monthly basis and revise measures as needed.

### **III. Financial**

#### **A. Estimate of the network's total costs for each year**

The total estimated cost to deploy the broadband network for 446 potential users over a two-year period is \$9,409,542.88. The estimated cost for year one is \$4,919,071.44 and for year two is \$4,450,071.44, and is detailed within the budget (see Section V.E.). The eligible project costs for hardware installation and managed connectivity services are \$9,111,569 of which \$7,760,179 (85%) will be FCC funds and \$1,351,380 (15%) will be paid by eligible subscribers.

Non-eligible project costs include technical assistance from UTHSC, two new CHN staff positions to administer the network, and Internet2 fees. These costs will be paid using State grant funds, and are shown totaling \$269,903 in the project budget. This amount will come from the \$350,000 in state grant funds committed for the project, which leaves a "contingency" amount of about \$80,000 for unexpected expenses. In addition, project technical support will be provided as an in-kind contribution by state personnel and is valued at \$28,080. A substantial in-kind project coordination and administrative contribution will also be made by CHN's CEO, staff and community health center members who will actively participate in the project's implementation. The contribution made by CHN's staff will be equivalent to .70 FTE per year or \$100,000 over two years.

**B. How for-profit participants will pay their fair share of the network costs**

There will be no for-profit participants within the first two years of the project. However, if after the first two years, for-profits are allowed to join the system, they will pay 100 percent of the actual cost of hardware installation and connectivity services at the time they join. No grant or other subsidies will be provided to for-profit users.

**C. Sources of financial support and anticipated revenues that will pay for costs not covered by the fund**

Each subscriber will be required to pay 15 percent of the total charges for connectivity installation and services at their location(s) which are not funded through the FCC grant. CHN will also charge subscribers a small surcharge (3% of the total monthly connectivity fee) in addition to the 15 percent match in order to cover its administrative costs. This surcharge will help ensure sustainability of the project beyond the initial two-year project, and may be re-evaluated and possibly increased if necessary at the end of the two-year project period.

Any additional matching funds which are needed, as well as any funds needed to pay ineligible project costs, will be paid through the grant provided to CHN by the State of Tennessee. Ineligible expenses include UTHSC technical support and CHN's two new staff positions that will be created to help administer the project. The State has authorized CHN to use up to \$350,000 for such expenses.

**D. Describe to what extent the network can be self-sustaining once established**

Based on CHN's projected number of subscribers at the end of year two, and an analysis of system service costs compared to expected income generated by payers, TTN will be 100 percent self-sustaining 24 months after it is established. CHN's analysis assumes that connectivity prices will drop by 25 percent over a two-year period of time, and that reduced rates and the financial and other benefits of participation in the network programs will result in subscriber willingness to renew their TTN service contracts. After the second year, the three percent surcharge applied to the monthly connectivity charge for 446 subscribers should result in annual revenues of \$96,336, which should be sufficient to cover salaries and benefits for the two positions created to serve the network. However, CHN may re-evaluate and increase the surcharge to ensure sustainable operations. Any unforeseen shortfall or expenses may require reliance on state grant funds (\$80,000 of the \$350,000 is reserved for such contingencies) until the number of subscribers exceeds the "breakeven point" where fixed costs/contribution per unit output are sufficient to maintain a self-sustaining network operation.

With respect to ongoing state support for the TTN initiative, over the long-term, the State of Tennessee believes that telemedicine can bring significant cost savings in health care for taxpayers as a result of earlier and improved diagnosis and treatment, reduced travel costs, and fewer needed visits to specialists. This is a major impetus for the significant investment the State has already made into the development of TTN and TNII. In addition to funding and other resources that have been devoted to these

initiatives, the State is taking a strong, proactive role in pursuing the adoption of new State legislation and regulatory directives to increase the reimbursement of telehealth expenses through health programs administered by the State. These programs include the State's Medicaid program (TennCare), the State's health plans for State employees, and the State's new insurance programs for the uninsured (Cover Tennessee). The State will also seek to actively promote telehealth reimbursement from private payers. Currently, at least five private payers in Tennessee reimburse for telehealth visits (AdvoCare, Blue Cross Blue Shield, Bluecare, Cariten Pref and Cigna). State law already provides for licensure of telehealth practitioners in Tennessee.

#### **IV. Participating Network Organizations**

##### **A. Describe and list health care facilities that will be included in the network**

A list of potentially eligible nonprofit health care facilities that could participate in the network is provided in Attachment E. An breakdown of these potential subscribers by facility type and RUCA code is summarized in the following table.

### Proposed TTN Sites by Facility Type and RUCA Classifications

Facility Type	Rural Area	Small Urban Center	Large Urban Center	Urban Area	Total
Community Health Centers	27	18	12	45	102
Primary Care Sites		1	0	28	29
Rural Health Clinics	1	7	4	5	17
Behavioral Health Facilities	9	28	48	89	174
Hospitals	8	20	11	57	96
VA Medical Centers/Clinics				3	3
UTHSC sites	4	2	6	13	25
<b>All Facilities</b>	<b>49</b>	<b>76</b>	<b>81</b>	<b>240</b>	<b>446</b>
<b>% Of Facilities</b>					

The total number of rural sites is 125, or 28 percent of all the sites. Rural sites include those in “Small Urban Centers” as well as “Rural” locations as classified by the RUCA system. It is important to note that including urban hospitals, VA Medical Centers and behavioral health facilities in the TTN project has the effect of decreasing the percentage of rural sites in the project. However, hospitals, specialist medical and behavioral health providers located in urban areas are often difficult for rural patients and providers to reach, thus, their inclusion in the project is vital to providing access to these needed telehealth services. **Under this project, the 125 rural provider sites in Tennessee will receive top priority for receiving TTN services,** with the provisional understanding that they must be connected to major urban specialty providers such as

UTSHC, Vanderbilt and UT Knoxville, as well as regional hospitals in order to access needed services.

CHN expects the majority of the 446 proposed sites will seek to take advantage of the subsidized and below market cost of connectivity cost offered through the TTN project. Although every potential user included in the list may not choose to join the network, CHN is confident that most will, and that other nonprofit providers which are not on the list will also seek to join the network when it becomes available because of the excellent value for service it will provide.

The list of proposed sites across the state of Tennessee includes providers in 92 of the 95 Tennessee counties. Three high poverty rural counties in Tennessee, Hickman, Lauderdale and Montgomery, do not have Section 330 providers according to HRSA's Bureau of Primary Care. In addition, two of the proposed sites are located in Arkansas, three are in Mississippi and two are in Kentucky. Nevertheless, funding provided through the State of Tennessee will support connectivity at these out-of-state sites which are either rural, in the case of Williamsburg, KY, or have major medical centers that serve rural areas, as in Jackson, Mississippi. The network is ultimately expected to be regional, and to serve health providers in all eight of the states bordering Tennessee.

**B. Describe CHN's growth in services and membership since its formation, anticipated future growth and new members that could be added in future years**

Over its six-year existence, CHN's strategic purpose has essentially remained the same: to identify and meet the operational and technological needs of its member

organizations through shared information networking and advanced technology resources, practice management technology, and business services in the most cost effective, efficient means possible. The organization has grown in membership from 10 founding members in 2001 to 17 members currently. An increase of at least one new member per year is projected for 2007 and 2008 and is consistent with past growth. The cost of membership is currently set at a minimum of \$5,000 per year. Through CHN, members have achieved improved integration of their information and business systems at significant cost savings. These benefits have been the result of greater economies of scale, group purchasing, shared cost of expert IT staff and managed business solutions across network members. As a result, members have a greater ability to respond to changes in the health care environment, including rapid technological advances, as well as ongoing changes in government regulation and the insurance industry.

CHN operates under a strategic plan developed by its board in August 2003, and updated in the fall of 2005 in a strategic planning session that resulted in a three-year blueprint for action for the agency. CHN's recent success in providing its member organizations with cost-saving IT and business solutions has enhanced its ability to recruit new members and to provide additional services. CHN recently completed installation of its first Electronic Health Records (EHR) system for a member organization, the East Tennessee State University of Tennessee School of Nursing Office of Practice and Research Clinics, and plans to continue to expand the EHR system to other members within the next two years. As community health centers continue to operate in an increasingly complex technological environment, the expertise

and availability of group IT, practice management and business services available through CHN will become more attractive and essential.

CHN was initially founded by fewer than a dozen small Community Health Organizations, most of which served rural areas, and it continues to be a membership-based organization governed by a board drawn primarily from its members. As a result of this history, CHN leadership and staff are close to and receive frequent feedback regarding members' IT needs and challenges. The CHN staff works closely with designated CHO employees at each member organization site to implement, manage and solve network and IT system issues, and is thus able to keep costs down while at the same time meeting needs. Based on this close "grassroots" working relationship which encourages and facilitates feedback, as well as input provided by partner organizations such as Tennessee Primary Care Association, CHN is very familiar with the priorities and most pressing aggregate IT challenges facing Tennessee's nonprofit community health clinics. Some of those challenges, which will be addressed through deployment of TTN, include improved access to:

- specialty medical providers in urban centers via telemedicine technology
- health research and data
- distance learning and Continued Medical Education (CME)
- on-line medical programs, practice management software and services
- health disaster recovery communications and planning networks



In addition, in 2007, CHN expects to begin working with QSource to identify its members' operational needs as they relate to the anticipated installation of Electronic Health Records (EHR) systems at member clinics. QSource is a not-for-profit healthcare consulting firm and the Medicare Quality Improvement Organization (QIO) for Tennessee. The survey and planning process followed by QSource as an early step in the EHR project will provide valuable added information on CHN members' general IT/networking needs. These needs, for training, secure data transmission and storage, protection of and secure access to health records, and related issues, will directly relate to the planning and implementation of the TTN. This and other initiatives by CHN and its partner agencies reflect the dynamic growth and forward momentum of telehealth at this time in Tennessee.

**C. Provision of rural services relative to urban services**

The goal of the TTN project is to provide a full range of telehealth services statewide and in the surrounding region. The list of 446 eligible health facilities includes all known rural health facilities in the state and seven in adjoining states. Of those listed, 125 or 28 percent have RUCA scores which denote "ruralness." (RUCA scores of 10, 9, 6, 3, 7.2 and 7.4 give a range of very to somewhat rural.) **CHN will make a concerted effort to market TTN to rural health facilities and will give rural facilities priority in service provision.** However, for the system to function successfully, connections from rural facilities to urban specialty medical providers is critical to providing access to a full spectrum of services. Rural and small community providers also need to connect to

small hospitals and practitioners in nearby medium-sized cities. Furthermore, many underserved patients in suburban and urban areas find it hard to travel for a variety of reasons. These patients will also benefit from **TTN**, which will enable them to access specialist care from their primary care provider without the difficulties of commuting.

The structure of the **TTN** program, with its low cost and open access to any nonprofit health care organization, will be a strong incentive for rural health care providers to participate in the network. CHN, UTHSC, and the State of Tennessee have a history and track record of working with rural providers, and will make strong efforts to market **TTN** directly to them, as well as through regional health networks and statewide trade organizations such as the Tennessee Primary Care Association (TPCA). CHN and its partners have strong working relationships with rural providers and understand their needs as a result of collaborating with them on prior IT projects. The involvement of three statewide health care trade groups (TPCA, THA, and TAMHO) in the **TTN** project planning, and the three partners' active participation in state regional health network groups will be helpful in recruiting subscribers.

CHN has engaged nonprofit consultants such as QSource, the designated Medicare Quality Improvement Organization (QIO) for the state of Tennessee, to assess and prepare its members for technology upgrades, including most recently, Electronic Health Records. CHN and its partners will provide needed technical support help prepare rural providers for **TTN** access, and will refer them to QSource for assessments and other assistance when necessary.

## **V. Project Management Plan**

### **A. Project Leadership and Personnel**

From a technical and programmatic standpoint, this project's feasibility is enhanced by the leadership that will be provided by CHN staff and board members, who have had significant experience with large and complex technology projects such as this one, as well as multiple federal grants. Many of the original board members responsible for the founding and growth of CHN will be directly involved in this project. CHN will also draw upon the expertise and support of its membership's 1000+ employees at 72 health facilities throughout the state. The technical support and resources which will be provided by the two project partners, UTHSC and the State of Tennessee, will also insure its success, and are described under separate headings below.

CHN's 15-member board of directors is drawn mainly from its membership and meets quarterly. The CHN board will be directly accountable to FCC and the State of Tennessee for the implementation of the project and for the use of federal and state grant funds. Three CHN staff members, ~~led~~ by CEO Keith Williams, are employed by the board and will be responsible for short and long-term implementation and operation of the TTN project. Upon receipt of a FCC grant award, a TTN Project Management Team will be established including CHN staff, UTHSC, and state personnel. The individual team members will have specific tasks and duties which are identified in the work plan, and will collectively monitor the project workplan and benchmarks on a

regular basis via bi-monthly conference call meetings. The project team will be chaired by Keith Williams and will be directly accountable to the CHN board.

A diagram showing the organization and management structure of the TTN project is provided in Attachment B-2. The collective experience of the project management team is substantial and covers many aspects of the IT and telehealth fields. The experience of CHN staff, UTHSC and state personnel are summarized below.

► Keith Williams, CHN's Chief Executive Officer (CEO), was hired by CHN in January 2004. Williams has since led CHN to improved financial stability through increased membership, expanded services and utilization, and by adding shared purchasing programs to the menu of CHN offerings. Under Williams' leadership, CHN has established group purchasing contracts with major vendors such as Henry B. Schien/Caligor (medical supplies), Staples (office supplies), Verizon (wireless discounts), Passport (discounted insurance verification), and TNII (discounted connectivity). Williams has expanded CHN's basic IT service to provide full service IT for the statewide membership, using CHN employees and contract personnel. Prior to joining CHN, Williams was Vice President of Business Services for Cherokee Health Systems from 2001 to 2004. He attended Western Carolina University and is a graduate of the University of Tennessee.

Keith Williams' role and primary responsibilities in this project will include project planning and management, hiring new CHN accounting staff, staff oversight and

training, and coordination with the State, UTSHC contractors and health facility end-users. In addition, he will prepare specifications for the managed network services contract, participate in provider selection, negotiate and administer the terms of the provider contract, and coordinate CHN staff functions as they relate to those of the carrier. Project budget oversight, grant administration, project accountability, and reporting to CHN's board of directors will also be his responsibility. The time Williams' will spend managing the project will be equivalent to .25 FTE (Full Time Employee) per year, or a total of \$50,000 over the two-year project. CHN will also invest \$10,000 in contracted grant preparation and renewal costs for the TTN project over two years.

► Paul Monroe, CHN's Assistant Director, is responsible for the agency's accounting activity, management information systems (MIS), and training and technical support for network members' in software programs such as the HealthPro XL practice management system. He serves as a member of the CHN Information Technology Committee, installs IT equipment at member locations, and provides FQHC financial management services and training to network members. Prior to joining CHN in January 2006, he was Chief Financial Officer for the Morgan County Health Council, and was responsible for equipment and technology installation for the operation for a telehealth grant conducted in conjunction with University of Tennessee-Knoxville. Monroe has a B.S. in Business Administration from Tennessee Technological University.

Paul Monroe's role and responsibilities in this project will include: establishing administrative protocols and a system for end-user billing, monitoring data tracking for

network system use, and supervision of new CHN accounting staff that will be hired to manage TTN user accounts. The time Monroe will spend on the project will be equal to .25 FTE per year, or a total of \$25,000 over two years of the project.

► Richard Burain is CHN's Network Administrator and joined CHN in this capacity in January 2006. He is responsible for installing, configuring and maintaining CHN's LAN/WAN infrastructure, monitoring and maintaining server system backups, and for server installations and configuration. He is also responsible for troubleshooting and operating the CHN member help desk. Prior to coming to CHN he worked at Cherokee Health Systems from 2003 to 2006 as an IT Specialist/Network Administrator. Burgin has a B.S. in Information Technology from East Tennessee State University.

Rick Burgin's responsibilities in this project will include initial and ongoing end-user contact/coordination with the provider, problem resolution between the network service provider technicians and end-users, and supervising on a day-to-day basis the TTN Network Coordinator position once it is filled. The time Burgin will spend on the project will be equal to .25 FTE per year, or \$25,000 over the two year project.

► Two (2) new FTE positions will be established at CHN for this project. One of these positions will be responsible for managing accounting and billing services for subscribers to TTN, and will report directly to Paul Monroe. The second position, TTN Network Coordinator, will be responsible for coordinating implementation of the broadband services between the service provider and subscribers and will report to Rick

Burgin. Keith Williams will provide general oversight and supervision for all staff positions involved in the project.

UTHSC Expertise: Highly experienced IT and telehealth specialists from UTHSC Memphis will provide technical assistance for implementation of the TTN under a ~~\$51,840~~ contract over two years. UTHSC personnel involved in the project include:

► Taylor Strickland, Chief Information Officer of the University of Tennessee Health Science Center (UTHSC), where he has worked since 1998. At UTHSC, Strickland has been the chief architect and project leader responsible for establishing a large scale H.323 statewide video network for telehealth services with approximately 100 Polycom video stations installed across the State of Tennessee. This includes two Accord Video bridges and a H.320 ISDN PRI gateway on the UTHSC campus, which allows worldwide video conferencing from the UTHSC telehealth network. UTHSC is the second largest telemedicine video network in the United States and is a recognized leader in the field of telemedicine. Strickland negotiated a contract for PRI lines with BellSouth, saving UTHSC \$80,000 per year, and he has engineered a number of other significant technology projects, including the transition of the UTHSC Local Area Network to a fiber optic system, design and implementation of voice and data networks for the Regional Medical Center at Memphis, and design and implementation of the E-911 Emergency System for Shelby County, Tennessee, which at the time was the largest E-911 system in the southeastern United States.

Strickland has attended the University of Memphis, University of Tennessee, and Massachusetts Institute of Technology. Before joining UTHSC, he ran a private consulting firm and worked for BellSouth for a number of years in both management and IT positions.

► Toy W. Strickland is Interim Executive Director of the Outreach Center for Healthcare Innovation and Community Outreach at UTHSC where, since 2005, she has also served as Director of Information Technology/Telemedicine. Strickland has served in other management positions since 1981, including IT Administrator and Regional Healthcare Account Manager for Bellsouth, as well as founder and co-owner of Strickland Communications Consultants, an IT consulting firm. She has an extensive background in marketing and management of government and healthcare accounts for UT and Baptist and Methodist Hospitals, and expertise in problem resolution, performance evaluation, setting and monitoring of organizational goals and objectives, development and implementation of business and strategic plans, development of performance measures, and implementation, management and monitoring of cost effective, sustainable service models. Strickland is an active member of the Governor's eHealth Initiative Sub-Committee and of the UT-Shelby County Telehealth Initiative Committee. She has a B.A. in Psychology from the University of Memphis and an M.B.A. from the University of Tennessee Martin.



**State of Tennessee Leadership and Participation:**

Personnel employed by the State of Tennessee will also play a critical role in facilitating and monitoring the deployment of the Rural Health Care Pilot Program in Tennessee, whether this system is established as part of the TNH network, or is awarded through the FCC competitive bidding process to a different carrier. Three state employees with extensive private and public sector experience in the information technology field are currently working closely with CHN staff, and will provide \$28,080 in in-kind time to assure the success of the pilot project. They include:

► Antoine Agassi, Director and Chair of the Governor's Health Advisory Council for the State of Tennessee. Antoine Agassi has more than 20 years' experience in healthcare transaction processing. Before he joined the State in 2006, he was the Chief Technology Officer and Chief Operating Officer of Spheris Corporation, a leading healthcare transcription and technology company. Before that, he was Executive Vice President and Corporate CIO of WebMD Transactions Services (now Emdeon). His other prior work experience includes duties as Senior Vice President and CIO of ENVOY Corporation, a leading healthcare EDI transactions company, and Vice President of Information Systems at Blue Cross Blue Shield of Utica-Watertown, NY.

Agassi currently serves on the boards of Tennessee's Regional Health Information Organizations (RHIOs) including CareSpark, Innovative Valley Health Information Network, and the Mid-South Health Alliance. He has an MBA from Syracuse University and a Bachelor of Computer Science degree from the State University of New York. He

will work on the FCC Rural Health Care Pilot Program project for at least three hours per month over the 24-month project period.

► Richard Taylor has worked as a technology strategist and project manager for the State of Tennessee since 1999, and has more than 30 years' experience in the IT field. Currently, he manages several major IT projects, including the Health Planning Decision Support System, the Tennessee ePrescribing Acceleration Project, and the Tennessee Financial Data Warehouse project, a multi million-dollar system that was awarded Data Management Review's international World Class Solution Award for Business Intelligence in 2003. Taylor acquired a Robert Wood Johnson Foundation Information Links grant for the State of Tennessee to research opportunities to share public health data with regional health information organizations, and in 2006 served as the primary strategist and architect for the development of a high level three-year Business Intelligence Deployment Strategy for the State of North Dakota. He has worked on numerous other IT projects for public and sector clients, including the Alabama Department of Public Health, Samford University, and Service Merchandise Company.

Taylor has a Masters of Public Administration from the University of Tennessee (1976), a Bachelor of Science from Auburn University (1975) and has been a member of the Institute for Certification of Systems Professionals since 1985. Mr. Taylor is expected to work on the FCC project for eight hours per month over the 24-month project period.

► Jim Winters is the project manager for the State of Tennessee TNII Association, and since 2003 has managed projects and monitored daily operations related to the TNII network. From 2000 to 2003, Winters worked for SCB Computer Technology as the Wide Area Network (WAN) Project Manager for the State of Tennessee Office of Information Resources, where he managed the transition of state agencies and higher education institutions to the TNII state network. From 1991 to 2000, Winters worked for the Tennessee Board of Regents as Network Manager for the Tennessee Education Cooperative Network (TECnet), a statewide WAN connecting 85 public and private universities, colleges and technical centers in Tennessee, managing an annual budget of \$1.2 million. He implemented and managed the Tennessee Education Network (TEN), the first large-scale K12 network in Tennessee, including development of specifications for network equipment and services, and contract negotiations and management. Winters is expected to devote approximately four hours per month to the Rural Health Care Pilot Project over a 24-month project period, for a total of 96 hours.

## **B. Management Structure**

The management structure for the TTN project is illustrated in the diagram in Attachment B-2. As was described above, the implementation of the project will be driven through the Project Management Team, which will report to the CHN board. In turn, the CHN board will be accountable to the FCC and State of Tennessee for meeting the goals, objectives and workplan activities established for the project.

After a network carrier is selected and approved, the Project Management Team will meet with the carrier's management officials to revise the workplan and develop a logical schedule of carrier connections and hardware installations at sites that contract for TTN services. The carrier, UTHSC and CHN network administrator will devise a plan to notify potential sites of the availability of network services and begin marketing TTN. CHN staff will work with interested sites to resolve any technical issues identified by the carrier, and will issue new service orders to the carrier on behalf of approved subscribers. The UTHSC team members will facilitate subscriber access to UTHSC telemedicine programs, distance learning and medical providers, and provide access to training in the use of telemedicine equipment and programs requested by subscribers. In addition, within the first six months of the project, the UTHSC members will advise and assist CHN and the carrier in developing a system to measure and monitor utilization of TTN services and to obtain customer feedback on the quality of service, its usefulness in meeting the health, distance learning and other needs of their practices. This system will be tied to performance measures that are approved by the CHN board, the State and FCC, and will be monitored quarterly for the first two years.

Once the network is established and running smoothly, marketing, managing and monitoring TTN services will be done by CHN. Two new positions will be established at CHN to assist with this process. An accounting position will be responsible for setting up and maintaining subscriber accounts, income and expense reports, and for issuing payments to the carrier based on subscriber volume, with the FCC grant covering 85 percent of the connectivity costs in the first 24 months of the project, and subscribers

paying the remaining 15 percent. At the end of the two-year grant subscribers will assume 100 percent of TTN's competitively bid and discounted connectivity costs, including a small surcharge to CHN (3%) to cover indirect administrative costs.

The second new position at CHN, that of TTN Network Coordinator, will be responsible for marketing network services (with special emphasis on reaching rural subscribers), subscriber contracts and renewals, ordering service connections, service problem resolution between the carrier and customers, identification and promotion of new telehealth services and training opportunities, customer satisfaction surveys/monitoring, and monitoring and reporting on service usage and performance objectives on a quarterly basis to the CEO Keith Williams and the CHN board.

**C. How the telemedicine program will be coordinated throughout the state**

Currently, CHN and UTHSC are two among four organizations in Tennessee which offer telehealth networking services to rural and urban health providers in medically underserved areas of the state and region. The other two are St. Jude's Telemedicine Program in Memphis, and the Vanderbilt Ophthalmic Imaging Center in Nashville. (The University of Tennessee Telehealth Network (TM) at UT Knoxville is part of the same UT Telehealth Network system at UTHSC Memphis.) CHN has projects underway that involve academic researchers at UTHSC, UT Knoxville and Vanderbilt, and will continue collaborating with these and other state and regional organizations to increase access to quality and specialized telehealthcare for residents in medically underserved communities. The State of Tennessee and the Governor's eHealth Advisory Council

are providing a significant amount the coordination, planning and funding needed for these and other state telehealth projects, and will have an expanding role in this regard.

Although the ownership, legal responsibility and financial administration of TTN will belong to CHN, TTN will function as a Virtual Private Network (VPN), providing individual users with network autonomy and security, while simultaneously facilitating inter-communication within and between other TTN subscribers and outside networks. A significant feature of the proposed network lies in the fact that it will be integrated within the statewide TNII, which provides users with instant access to a large number of other networks. The TNII Network is a highly fault-tolerant, integrated Internet Protocol (IP) network supporting data, voice, video, and Internet services. The core network is constructed around five Network Access Points (NAPs) that are cross-connected by extremely high speed circuits (typically DS3, OC3, or faster). The network is constructed so that failure of any circuit—or even an entire NAP—will not bring down the network. Point of Presence (POP) sites are geographically dispersed throughout Tennessee, connecting to the NAPs using multiple DS3 links. A central Network Operations Center actively monitors and maintains the network 24 hours per day, every day of the year.

TTN Managed Network Services: A second highly significant feature of the program is the proposed managed services approach, modeled after the State's TNII network, by which CHN will contract with a private carrier to purchase and provide the required equipment, software, and services for subscribers. This competitive private sector outsourcing will encourage greater cost efficiencies, as well as an emphasis on cutting

edge technologies. Specifications and services that will be included in the carrier's managed services contract (either funded through FCC or by other sources) are:

- End Site-Managed 384K, T1, through OC3 Circuits
- Cisco equipment dependant on circuit size
- Internet2 access
- Managed firewall security for Internet egress
- Connection to all other sites on the TTN and TNII networks
- Managed H.323 video services
- Proactive network monitoring
- Industry leading service level agreements

**Managed H.323 Video:** TTN will provide a managed H.323 video network for its subscribers. This video network will provide low-cost, multiple-point video bridges, as well as no cost point-to-point for subscribers on the network and guest ports for members to bridge with video users outside of the TTN community to facilitate telehealth patient and provider encounters as well as video conferencing.

#### **D. Work Plan**

The start and completion dates noted in the work plan chart and schedule on the following page 27 may need to be adjusted depending on when FCC funds become available.

## TTN Work Plan

Activities/Benchmarks	Responsible Person(s)	Start Date	Completion Date
<b>Prior to Grant Award</b>			
Advertise/hire Coordinator and Accounting Positions	CEO	June 2007	July 2007
Create MOAs and Agreements for End Users	CEO/Asst. Director/Network Administrator	June 2007	July 2007
Begin marketing, planning connectivity with end-users, TPCA, THA, TAMHO and UTHSC.	CEO/Asst. Director/Network Administrator/UTHSC	June 2007	July 2007
Prepare UTHSC contract	CEO/UTHSC	June 2007	July 2007
Bi-weekly conference calls with Project Team	CEO/State/UTHSC	June 2007	Duration of Project

## Upon Grant Award

File Form 465 for posting with site list	CEO/Assistant Director	Week 1	Week 6
Begin executing end-user and participant MOAs and pro&-related contracts.	CEO/Assistant Dir.	Week 2	Week 8
Fill Coordinator and Accounting Positions	CEO/Assistant Dir	Week 2	Week 2
Market Program and Services to End-Users	CEO/TPCA/THA/TAMHO/UTHSC/State	Week 2	Ongoing
Set Up TTN Accounting and Billing System	Assist. Dir./New Accounting Hire	Week 3	Week 10
Develop end-user staff training materials; present and refine with end-users	Assist. Director/UTHSC	Week 3	Through Installations
Work with winning bidder on contract/MOAs	CEO/Assist. Dir./UTHSC/State	Week 7	Week 10
Begin installations at rate of 30 per week	Network Admin./Vendor	Week 11	Week 26
Provide TA and customer support to subscribers	Vendor/UTHSC/New Network Coordinator/Network Admin.	Week 11	Ongoing
Monitor vendor progress	New Network Coord./Network Admin./CEO/UTHSC	Week 7	Ongoing
Report monthly to FCC and stakeholders	CEO/Assist. Dir./Network Admin.	Week 4	Duration of Project



**E. Project Budget**

The project budget is provided on the following page. A detailed budget showing each project site is included in Attachment D.